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(71) Applicant: THE BOARD OF TRUSTEES OF THE LELAND STANFORD JUNIOR UNIVERSITY
857 Serra Street, 2nd Floor
Stanford, California 94305-6225(US)

(72) Inventor: Kovacs, Gregory T.A.
275 Hawthorne, Apt. 118
Palo Alto California 94301(US)
Inventor: Holland, Kric C.
338 Roble Avenue No. 2
Menlo Park California 94026(US)

(74) Representative: Whalley, Kevin et al
MARKS & CLERK 57/60 Lincoln's Inn Fields
London WC2A 3LS(GB)

(54) Electrophoretic system.

(57) An electrophoretic device (20, 40, 50, is disclosed which is fabricated in a silicon wafer with many microscopic trenches (24, 44, 54) on its surface. The trenches are preferably covered by a cover (26, 46) so that the trenches can hold an electrolyte and an electrophoretic sample. Control circuits can be conveniently fabricated on the wafer as well. The control circuit is then used for applying electric fields to the trenches in an electophoretic process to separate the sample into its components. An electrophoretic method is also disclosed which is applicable to a device with a source and a sink electrode and at least a third electrode in or adjacent to the source. The third electrode is arranged transverse to the direction for applying voltages to the source and sink. Voltages are applied to the electrodes so that the third electrode is at a higher or lower potential than the source and sink electrodes to attract charged sample components to their vicinity. Subsequently a different set of voltages is applied to the electrodes so that the sample components in the vicinity of the third electrode move towards the sink.

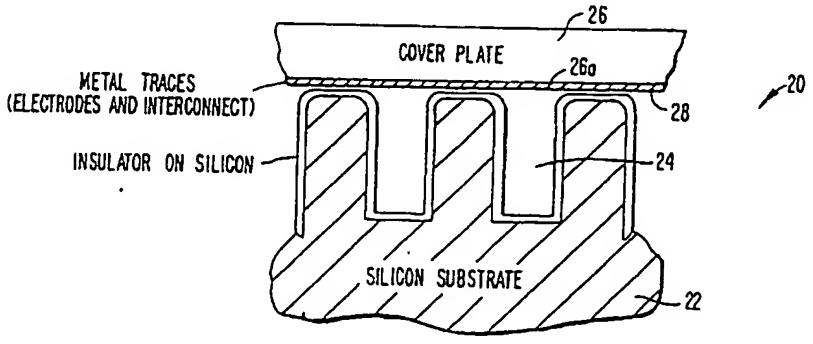

FIG._1.

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EUROPEAN SEARCH REPORT

Application Number

EP 89 31 3379

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	US-A-4 374 723 (O. A. Y. VESTERBERG) * column 6, line 18 - line 42; figure 1 *	1	G01N27/447
A	WO-A-8 301 906 (R. S. LEDLEY) * page 6, line 1 - line 23; figures 1-3 *	1	
A	US-A-3 755 121 (C. A. SCHLUTZ) * abstract; figure 1 *	1	
A	US-A-4 670 119 (S. M. HURD) * abstract; figures 1,2 *	1	
A	ANALYTICAL CHEMISTRY vol. 60, no. 7, 1 April 1988, WASHINGTON D.C., USA pages 642 - 648; D. J. ROSE ET AL: 'CHARACTERIZATION AND AUTOMATION OF SAMPLE INTRODUCTION METHODS FOR CAPILLARY ZONE ELECTROPHORESIS' * page 642, column 2, line 7 - line 13; figure 1 *	1	
A	US-A-4 707 235 (D. F. ENGLERT) * abstract; figure 1 *	1	TECHNICAL FIELDS SEARCHED (Int. Cl.5) G01N

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	19 MAY 1992	DUCHATELLIER M.

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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